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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/645,646 | 08/22/2003 | Guy Moshe Cohen | YOR920030328US1 | 8783 |
| 21254 | 7590 | 08/08/2005 | EXAMINER | |
| MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817 | | | BLUM, DAVID S | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2813 | |

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/645,646 | Applicant(s) COHEN, GUY MOSHE | |
| | Examiner David S. Blum | Art Unit 2813 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 and 25-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-27 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/10/03</u> | 6) <input type="checkbox"/> Other: _____ |

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This action is in response to the election filed 4/20/05.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-12 and 21-24 in the reply filed on 4/20/05 is acknowledged.
2. Claims 13-20 and 25-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/20/05.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-12 and 21-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Joshi (US006921982B2).

Joshi teaches the device of claims 1-12 and 21-24 as follows.

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Regarding claim 1, Joshi teaches a channel of strained silicon germanium adjacent a source and drain (12 and 14), column 10 lines 9-10), two gates (88 and 89), the gates on a dielectric layer (see column 6 lines 13-18, gate on dielectric), and the channel is non-planar (figure 8F).

Regarding claim 2, the channel thickness is relatively uniform (figure 8F).

Regarding claim 3, the channel material may be epitaxially grown (column 8 lines 1-4).

Regarding claim 4, Joshi forms high quality SiGe free from dislocations (column 7 lines 18-20). The examiner considers this to mean "defect free".

Regarding claim 5, the strained-silicon channel includes a distorted lattice cell. This is inherent to a strained layer.

Regarding claim 6, the gates are independently controlled (column 10 line 12).

Regarding claim 7, the strained silicon channel comprises a fin (figure 8F and column 10 line 4).

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Regarding claim 8, the first and second gates are self-aligned (islands are precision aligned (column 7 lines 39-40), thus resulting gates would be self aligned.).

Regarding claim 9, the limitation of forming the first and second gates in a single lithography step is a process limitation (product by process) and has no patentable weight in device claims.

Even though product-by-process claims are limited by and defined by the process, determination of Patentability is based upon the product itself. The patentability of a product does not depend on its method of production." MPEP 2113

Regarding claim 10, the first and second gates are self-aligned as above (see claim 8) and also aligned with the source and drain, thus all are self-aligned.

Regarding claim 11, the background of the invention teaches that it is known to use one or more fins (column 1 line 42-44). Also see column 7 lines 64-65 and column 8 lines 42-43).

Regarding claim 12, the device includes a planarized top (figure 8F).

Regarding claim 21, Joshi teaches a channel of strained silicon germanium adjacent a source and drain (12 and 14), column 10 lines 9-10), two gates (88 and 89), the gates on a dielectric layer (see column 6 lines 13-18, gate on dielectric), and the channel is

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non-planar (figure 8F), the strained silicon channel comprises a fin (figure 8F and column 10 line 4).

Regarding claim 22, a circuit may comprise the device of claim 1 (column 1 lines 14-45).

Regarding claim 23, the strained silicon channel is compressively strained (column 5 line 45).

Regarding claim 24, the strained silicon channel is compressively strained (column 5 line 45 and column 6 line 66).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Blum whose telephone number is (571)-272-1687) and e-mail address is David.blum@USPTO.gov .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr., can be reached at (571)-272-1702. Our facsimile number all patent correspondence to be entered into an application is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'D. Blum', with a long horizontal stroke extending to the right.

David S. Blum

August 4, 2005